

EXECUTIVE SUMMARY

Salton Sea Ecosystem Restoration Program

Draft Programmatic Environmental Impact Report

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use changes require the removal of unexploded ordnance (U.S. Navy, 1999). Munitions and explosives of concern maintenance is ongoing (U.S. Navy, 2000).

Salton Sea Bombing Targets in the Inundated Areas

Up to 18 target sites across the Salton Sea were used for practice bombing by the U.S. Navy during World War II. These sites are described in Table 14-3, and their general locations are shown in Figure 14-1. From 1941 to 1944, the Eleventh Naval District acquired authorization by permits from the Department of the Interior, Imperial Irrigation District, or other property owners to use designated areas of the Salton Sea as practice bombing targets. Most of the permits were for use of an entire section (640 acres) of property. Permits for many Salton Sea bomb targets were discontinued in 1945 and 1946. Limited documentation is available concerning disposal of the bomb targets and steps taken to return the sites to their original condition.

Most of the bombing targets were floating targets consisting of radar-rigged, wooden pyramid structures for high-altitude bombing and dive-bombing practice (USACE, 1996). One was a skip bomb target with a screened raft-radar for low-level practice bombing. A few targets shifted location over time due to the effects of weather and wind. Other sites were designated as safety areas near bomb targets to provide a buffer. Some sites were listed as “potential or proposed,” and may not have been used for bombing practice. Typically, practice bombs were not live, but contained a small charge to aid in “spotting” the bomb hit. Spotting charges that did not detonate could still be intact in the ordnance and constitute a hazard, although it is likely that any ordnance remaining for the past 65 years has been affected by the corrosive environment of the relatively shallow salt waters of the Salton Sea (USACE FUDS database; see Table 14-1 for website link).

Unexploded ordnance and munitions may lie on or within the floor of the Salton Sea over the 12,200 acre area where the bombing targets previously existed. This area includes two targets (sites 10MA and 10MB) used by the AEC and Strategic Air Command. Items likely to be found at those sites include WW-II era practice bombs, atomic shape bombs, or small explosive components and/or spotting charges. Ordnance in the Salton Sea may be the result of drops from U.S. Army planes aiming for site 10LA (land target), Navy planes aiming for skip bombing target G, U.S. Navy planes aiming for another water target, or accidental drops (USACE, 1996).

A salvage operation using divers was conducted in 1960 at the water target areas within the SSTB used for bomb practice with atomic weapon test units (DTSC EnviroStor database; USACE 1996). The salvage operation removed 10,000 pounds of material that was returned to Albuquerque for identification. In 1961, U.S. Navy divers conducted an extensive underwater search, recovering a practice bomb as well as an atomic bomb shape. Any residual materials that were not removed by these salvaged operations are most likely buried deep in mud, below 35 feet of water (USACE, 1996). No records were obtained indicating that ordnance clearance and decontamination occurred at the bomb target sites outside the SSTB. The U.S. Army Corps of Engineers report (USACE, 1996) on the sites recommended further assessment of Ordnance and Explosive Waste for these sites. Historical records specify “no restoration required other than target removal” for the practice bomb targets (USACE FUDS database). However, it is unclear whether these recommendations were based only on considerations for removal of visual evidence of the bomb targets or whether they also accounted for clearance of practice bombs from the Sea Bed.

Radioactivity

Experiments using non-explosive atomic bomb weapon test units were carried out in 1944 as part of the Manhattan Project to determine the best shape for the weapon. Test units were made of cast steel or aluminum, and filled with concrete or lead, although a limited number of test units were also reported to have contained depleted uranium ballast (USACE, 1996).

The Environmental Test Program, conducted by Sandia Corporation evaluated the possible effects of long term storage of atomic weapons in natural environments. Tests conducted at SSTB were performed in the desert at an undisclosed location, and monitored from a surveillance building. Test units contained components of depleted uranium (i.e., depleted with respect to proportions of the uranium-235 isotope), but no fissionable materials, such as enriched uranium or plutonium. This project was completed in 1959. Test units were disassembled for testing and inspection, possibly at Building 4070, also known as “Dog Site” (Bechtel, 1995).

The Archives Search Report (USACE, 1996) reported anecdotal information that during the 1950s, an Air Force bomber accidentally dropped a “flyaround” unit containing 120 pounds of uranium into the Salton Sea. The unit was not intended to be dropped, and no report of its recovery was found during preparation of this report. Its exact location remains unknown. The source for this information appears to be a newspaper article titled, “*Radiation, waste in Salton Sea?*” in the November 1, 1992 edition of the Imperial Valley Press. The original source for this information could not be determined from the records search.

Other Sources of Contamination on the Salton Sea Test Base

Other potential concerns at the SSTB are largely the result of secondary contamination. The Base Realignment and Closure Cleanup Plan (U.S. Navy, 1995) indicates that the shoreline disposal area, which was a suspected dumping area for domestic trash and construction debris, poses potentially significant risks from PCB Arochlor-1254 present in the soil. Elevated chromium concentrations have also been measured in the sediment. The Base Realignment and Closure Cleanup Plan recommended further evaluation of the site to confirm the existence or absence of contamination. The U.S. Navy (1999) subsequently indicated that the 24 Installation and Restoration Program sites at SSTB have been sufficiently addressed and closed with respect to hazardous materials.

Another concern was a landfill located on the SSTB near State Highway 86. Correspondence between the BLM and U.S. Navy in late 1995 discusses the threat to surface and groundwater because of the landfill and the requirement to submit a technical report to the CRBRWQCB. The report was to include a delineation of the horizontal and vertical extent of the waste. It is not clear from the available information whether the report was completed or if the CRBRWQCB required site cleanup or mitigation.

In 1995, the locations of 33 underground storage tanks were confirmed as part of the U.S. Navy Underground Storage Tank Mitigation Program. All but 15 of the tanks were recommended for no further action. The remaining tanks were handled as part of the Underground Storage Tank Mitigation Program. Ten tanks were removed from SSTB, six of which required the removal of contaminated soil and groundwater for treatment. The use of bioremediation to clean the contaminated soil at some sites was effective. According to a SSTB Fact Sheet on Underground Storage Tank mitigation (U.S. Navy, no date), completion of the project was expected in July 1997.

The transfer of the SSTB from the U.S. Navy to BLM included provisions for environmental remediation of the lands by the U.S. Navy to address issues involving unexploded ordnance and other potentially hazardous materials. A preliminary assessment and site inspection were conducted in 1993 to locate and assess levels of contamination. Landfills, leach fields and septic tanks, aeroballistic targets, maintenance facilities and shops, oiled roads, and the small arms range were evaluated. Based on this evaluation, sediment/soil sampling and analyses were recommended for a number of sites (U.S. Navy, 1993). A removal site evaluation report was completed in June 1997 and approved by DTSC in July 1997. Sample results and evaluation indicated that no further action was required on the base for chemical contamination (Calsites, DTSC database; see Table 14-1 for website link).

